

**REDESCRIPTION OF TWO TAILED SPIDER,
Hersilia caudata SAVIGNY, 1825
(ARANEAE, HERSILIIDAE) FROM EGYPT**

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ABSTRACT

One male and one female of *Hersilia caudata* Savigny, 1825 (Araneae: Hersiliidae) were re-described. The specimens were collected from Egypt from orange orchards. *Hersilia caudata* described by Savigny (In Audouin, 1825) was recorded from Egypt. The earlier revision was done by Foord in 2005 based on specimens collected from North Africa and Afrotropical regions housed in Southern African, European and American institutions.

Key words: Egypt, Araneae, Hersiliidae, *Hersilia caudata*.

INTRODUCTION

Hersiliidae is a small spider family, comprising 15 genera and 135 species (Platnick, 2012) all over the world. Of these, 2 genera and 2 species are known from Egypt (El-Hennawy, 2006). The family Hersiliidae includes small to median-sized spiders (Murphy and Murphy, 2000). The Hersiliid spiders are characterized by conspicuously long posterior lateral spinnerets, elongated legs and are limited to the tropical and subtropical regions of the world. All hersiliids are arboreal except for the representatives of *Hersiliola* Thorell, 1870 and *Tama* Simon, 1882. The latter two genera are ground active, inhabiting arid regions of Africa, the Mediterranean and western parts of the Oriental region (Foord, 2005).

Hersilia Savigny, 1825 is the most diverse genus in the family Hersiliidae, with 76 described species (Platnick, 2012) distributed all over the world.

Hersiliid spiders are popularly known as Long-Spinnered Bark Spiders or Common Two-Tailed Spiders. They are easily recognized by the flattened body, raised eye region, the bi-articulations on the metatarsi of legs I, II and IV, the extremely long posterior lateral spinnerets, which are often longer than the abdomen and sometimes approaching the total body length and by the legs that are stretched out radially on tree bark or lichen-covered crags. The body colouration is brown to match the color of dry bark that the spider is normally resting on and camouflages well (Baehr and Baehr, 1993; Chen, 1994; Rheims and Brescovit, 2004; Foord and Dippenaar-Schoeman, 2005, 2006; Sebastian and Peter, 2009). Chelicerae are unarmed or armed with large and series of minute teeth. Eight eyes in two strongly recurved rows; eyes on a large tubercle; anterior median eyes often larger than posterior median eyes (Jocqué and Dippenaar-Schoeman,

2006). Knowledge of the natural history of *Hersilia* is still rudimentary. They are cryptic and remain with their bodies ad-pressed to the substrate when at rest, moving at great speed when disturbed (Dippenaar-Schoeman and Jocqué, 1997). Although specimens are not easily located, reflections of sunlight on the guide threads they leave on trunks are good indicators of their presence on a tree (Dippenaar-Schoeman and Jocqué, 1997).

Hersilia caudata Savigny, 1825: 115, pl. 1, f.8 (Df); C. L. Koch, 1843: 103, f. 824 (f); O. P.-Cambridge, 1876b: 560, pl. 58, f. 6; O. P.-Cambridge, 1876b: 561 (D j); Simon, 1893a: 446, f. 418-423; Kulczyn'ski, 1901a: 18, pl. 1, f. 18-19 (f, Dm); Benoit, 1967b: 23, f. 6-7 (Df); Benoit, 1967b: 34, f. 37, 40, 44 (mf, S); Benoit, 1971: 152 (S); Baehr & Baehr, 1993: 17, f. 1, 15a-f (mf); Baehr, 1998: 63, f. 1d (m); Levy, 2003: 21, f. 41-46 (mf); Rheims & Brescovit, 2004a: 208, f. 11, 30, 36, 51-54 (mf); Rheims, Brescovit & van Harten, 2004: 336, f. 1-3, 7-15 (mf); Foord & Dippenaar-Schoeman, 2006: 59, f. 132-138, 200 (mf); El-Hennawy, 2010: 25, f. 1-3 (mf).

There were 22 species of *Hersilia* known from the Afrotropical Region (Foord, 2005). The type species, *Hersilia caudata*, described by Savigny (In Audouin, 1825) was recorded from Egypt.

This paper presents taxonomic revision of *Hersilia caudata*. The two spider specimens were collected from Egypt.

MATERIALS AND METHODS

Descriptions are based on specimens previously collected from orange orchards from Egypt. They were collected from this habitat by searching tree bark and collected by a method of hand collecting. These specimens were preserved in 70% ethanol. One male and one female specimens were visually examined and photographed by using stereo-microscope fitted with a camera MIPS. Measurements were recorded in millimeters using the digital mini-microscope. Female epigyne was dissected and pre-cleared with 10% KOH to examine the inner genital structures. Measurements of the posterior spinnerets are shown as body total length.

The abbreviations used in this paper are as follows: AME- anterior median eye; ALE- anterior lateral eye; PME- posterior median eye; PLE- posterior lateral eye; MOQ- median ocular quadrangle.

Legs – measurements were taken (Coxa, Trochanter, Femur, Patella, Tibia, Metatarsus and Tarsus) as the length of leg.

OBSERVATIONS AND RESULTS

Description: Median - sized spiders, all measurements were taken based on adults of one male and one female.

Hersilia caudata, Savigny, 1825– **Male**

General: Cephalothorax, abdomen and legs are golden brown in color, total body length 9.844 mm, cephalothorax 3.155 mm long, 2.503 mm wide; abdomen 3.331 mm long, 2.647 mm wide.

Cephalothorax: flat, longer than wide, wider posteriorly and narrowing anteriorly, covered with strong, erect spines, lateral margins of the cephalothorax having longitudinal conspicuous spines.

Eyes: eight eyes in two rows, strongly recurved row, situated on large tubercles, eye area with dark patch, eye tubercles raised, MOQ wider posteriorly, AME are larger than PME, PLE slightly larger than the ALE.

Clypeus: very high, long and sub-rectangular in shape.

Sternum: heart-shaped, pale yellowish, longer than wide, anterior edge straight, posterior end truncated between coxae III and IV.

Chelicerae: chelicerae small with short fangs, brown in color with 3 promarginal teeth, anterior teeth is the biggest one, retromargin without teeth.

Mouth parts: endites longer than wide, anteriorly covered with tuft of hairs, labium free with rounded tip.

Legs: laterigrade, very long, male legs are longer than those in female, the first two legs are longer and stouter than the others, legs III is the shortest leg, trichobothria present, legs with spines, autospasy occurs at patella-tibia joint, metatarsi of legs I, II and IV biarticulated. Leg formula: 1243.

Leg measurements (Male):

Leg	I	II	III	IV
Coxa	1.167	1.282	0.939	1.080
Trochanter	0.854	0.952	0.797	0.808
Femur	7.684	7.030	6.318	6.994
Patella	1.594	1.166	1.166	1.157
Tibia	8.282	7.371	3.984	7.284
Metatarsus	5.720	7.001	5.180	4.873
Tarsus	3.927	3.927	1.137	2.959
Total Length	29.228	28.729	19.521	25.155

Abdomen: flat, longer than wide, wider behind than in front, covered with plumose setae, four pairs of round dorsal sigilla, second and third pairs are the biggest.

Spinnerets: three pairs of two segmented, pale in color, posterior spinnerets as long as abdomen, cylindrical, elongated and tapering apical segments, total length 3.358 mm.

Colulus: reduced to small with short setae.

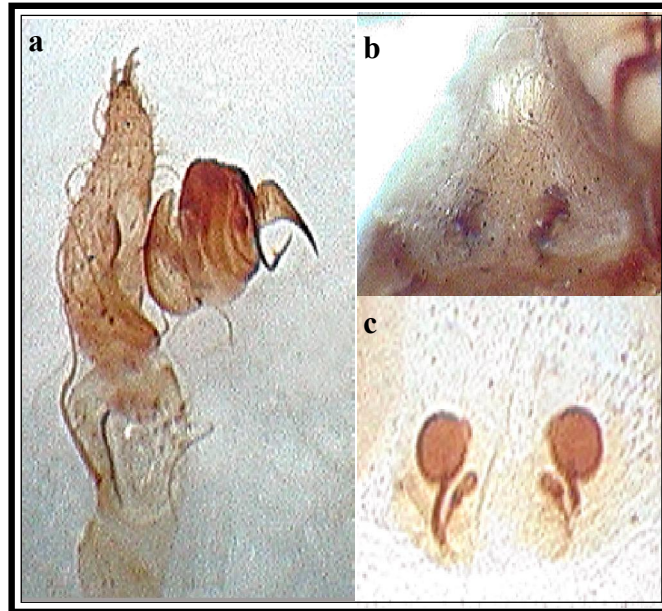


Fig. 1: a-Palp, prolateral view; b-Female epigyne before clearing;
c-Vulvae, dorsal view

Male Palpus (Fig 1a): tibia with prolateral apophysis. Embolus starts proximally, runs distally and turns retrolaterally ending midway into a pointed sclerotized tip, slightly curved filiform blackish brown tip. Cymbium is elongated, truncated, covered laterally with eight long hairs and four distal apical spines. Retrolaterally tibia has two long hairs, extending $\frac{1}{4}$ th length of cymbium. Hook like median apophysis extending beyond embolus overlapping it. Total length of palp is 2.254 mm.

Hersilia caudata, Savigny, 1825 - Female

Female resembles male except body length (female bigger than male in size) (10.217mm and 9.844mm respectively), length of legs shorter than the length of legs of male (I-23.650; II-22.179; III-14.713; IV-19.237, I-29.228; II-28.729; III-19.521; IV-25.155mm respectively).

General: Cephalothorax, abdomen and legs are golden brown in color, total body length 10.217 mm, cephalothorax 3.444 mm long, 3.101 mm wide; abdomen 3.444 mm long, 3.329 mm wide.

Cephalothorax: flat, slightly longer than wide, wider posteriorly and narrowing anteriorly, covered with strong, erect spines, lateral margins of the cephalothorax having longitudinal conspicuous spines.

Eyes: eight eyes in two rows; strongly recurved row, situated on large tubercles; eye area with dark patch, eye tubercles raised, MOQ wider posteriorly, AME are

larger than PME; PLE slightly larger than the ALE.

Clypeus: very high, long, sub-rectangular in shape.

Sternum: heart-shaped, pale yellowish, longer than wide, anterior edge straight, posterior end truncated between coxae III and IV.

Chelicerae: chelicerae small with short fangs, brown in color with 3 promarginal teeth, anterior one is the biggest one, retromargin without teeth.

Mouth parts: endites longer than wide, anteriorly covered with tuft of hairs, labium free with rounded tip.

Legs: Legs laterigrade, very long, male legs are longer than those in female, the first two legs are longer and stouter than the others, legs III is the shortest leg, trichothria present, legs with spines, autospasy occurs at patella-tibia joint, metatarsi of legs I, II and IV biarticulated. Leg formula: 1243.

Leg	I	II	III	IV
Coxa	0.540	0.655	0.540	0.655
Trochanter	1.082	0.825	0.655	0.797
Femur	6.774	6.148	4.379	6.318
Patella	1.138	0.883	0.768	1.166
Tibia	5.607	5.266	4.412	3.984
Metatarsus	4.611	4.669	2.651	5.180
Tarsus	3.898	3.785	1.308	1.137
Total Length	23.650	22.179	14.713	19.237

Abdomen: flat, longer than wide, wider behind than in front covered with plumose setae, widest in posterior third, four pairs of round dorsal sigilla, second and third pairs are the biggest.

Spinnerets: three pairs of two segmented, pale in color, posterior spinnerets as long as abdomen, total length 3.329 mm, cylindrical with elongated and tapering apical segments.

Colulus: reduced to small with short setae.

Female Epigynum (Fig 1.b and c): two pairs oval spermathecae, spermathecal ducts simple and short, a pair of spermatheca, sub-triangular caecae located on the inner side with a small caecal tube which joins spermathecal duct to form fertilization duct which open separately quite widely, fertilization ducts short, Seminal receptacle glandular and diffused.

DISCUSSION

Hersilia caudata, described by Savigny (In Audouin, 1825) was recorded from Egypt. However, Foord (2005) confirmed it on the basis of palp and epigyne.

Body length of both male and female were 9.844 mm and 10.217 mm respectively. However, as per Foord (2005) descriptions, length of male and female were not given as total body length. According to Foord (2005), length of legs were (I-33.95; II-31.61; III-9.18; IV-26.65mm, I-23.38; II-23.33; III-7.26 and IV 22.5mm for male and female respectively), this disagree with the present description (I-29.228; II-28.729; III-19.521; IV-25.155mm and I-23.650; II-22.179; III-14.713; IV-19.237mm for male and female respectively), however the legs formula remains the same i.e. 1,2,4,3. According to Foord (2005), palp with 2-3 apical spines but for the Egyptian specimen, numbers of the spines are four when observed under Carl Zeiss SZM. Total length of male palpal organ is 2.254 mm comparing with Foord (2005), it was 3.73 mm. Coloration varies from pale orange to red brown to dark brown, abdomen with four pairs of dorsal muscular sigilla, second pair largest, this agrees with the present description but second and third pair are the largest. Chelicerae with 3 promarginal teeth each, anterior tooth is the biggest one, retromargin without teeth, fang simple and short.

Distribution: Egypt, Israel, Burkina Faso, Cape Verde Islands, Chad, Nigeria, Sudan; new record Cameroon, Guinea, Ivory Coast, Mali, Senegal, Somalia and Togo. Baehr and Baehr (1993), recorded one enigmatic specimen from the Oriental Region from Turkestan (Kingiang) in western China.

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